

WHAT IS CLAIMED IS:

1. An image sensor device which optically reads
out a document comprising:

an image sensor portion having a plurality of
light receiving elements arranged regularly facing a
document to be read out; and

5 a thin film light source arranged closely
contacted on the document side of said image sensor
portion, said thin film light source emitting light to
said document,

10 wherein said thin film light source includes
more than one light emission portion having an area
smaller than that of said light receiving elements,
said light emission portion corresponding to each of
said light receiving elements, and said light emission
portion includes a light blocking layer on said light
receiving element side and is arranged on a lower
15 surface of said light receiving element between said
light receiving element and said document.

2. The image sensor device according to claim 1,
wherein the light emission portion of said thin film
light source consists of a transparent electrode, an
opaque electrode and an organic thin film held between
5 the transparent and opaque electrodes and said opaque
electrode is formed of a material which functions as a

light blocking layer for a region other than said light receiving element of said image sensor section.

3. The image sensor device according to claim 1, wherein light blocking means is provided at a region other than said light receiving element of said image sensor portion.

4. The image sensor device according to claim 1, wherein said image sensor portion is one of two types of image sensors, one being formed on a crystalline silicon wafer and the other being formed on a transparent substrate by thin film semiconductor processes.

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5. The image sensor device according to claim 1, wherein said thin film light source emits light of a plurality of different colors.

6. The image sensor device according to claim 1, wherein an optical fiber collection member is provided between said thin film light source and said document.

7. An image sensor device which optically reads out a document comprising:

an image sensor portion having a plurality of light receiving elements arranged regularly facing a

5 document to be read out; and

a thin film light source arranged tightly contacted on the document side of said image sensor portion, said thin film light source emitting light to said document,

10 wherein said thin film light source includes a light emission portion provided for each of the light receiving elements and has an area larger than said light receiving elements, and said light emission portion has a light blocking layer on said light receiving element side, said light blocking layer having at least one opening portion for transmitting light from said document to said light receiving element.

5 8. The image sensor device according to claim 7, wherein the light emission portion of said thin film light source consists of a transparent electrode, an opaque electrode and an organic thin film held between the transparent and opaque electrodes and said opaque electrode is formed of a material which functions as a light blocking layer for a region other than said light receiving element of said image sensor section.

9. The image sensor device according to claim 7, wherein light blocking means is provided at a region other than said light receiving element of said image

sensor portion.

10. The image sensor device according to claim 7,
wherein said image sensor portion is one of two types
of image sensors, one being formed on a crystalline
silicon wafer and the other being formed on a transparent
substrate by thin film semiconductor processes.
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11. The image sensor device according to claim 7,
wherein said thin film light source emits light of a
plurality of different colors.

12. The image sensor device according to claim 7,
wherein an optical fiber collection member is provided
between said thin film light source and said document.

13. An image sensor device which optically reads
out a document comprising:

an image sensor portion having a plurality of
light receiving elements arranged regularly facing a
document to be read out; and
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a thin film light source arranged tightly
contacted on the document side of said image sensor
portion, said thin film light source emitting light to
said document,

10 wherein a light absorption unit is disposed

between the light emission portion of said thin film light source and said document at a position other than the document irradiation portion.

14. The image sensor device according to claim 13, wherein the light emission portion of said thin film light source consists a transparent electrode, an opaque electrode and an organic thin film held between the transparent and opeque electrodes and said opaque electrode is formed of a material which functions as a light blocking layer for a region other than said light receiving element of said image sensor section.
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15. The image sensor device according to claim 13, wherein light blocking means is provided at a region other than said light receiving element of said image sensor portion.

16. The image sensor device according to claim 13, wherein said image sensor portion is one of two types of image sensors, one being formed on a crystal-line silicon wafer and the other being formed on a transparent substrate by thin film semiconductor processes.
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17. The image sensor device according to claim 13, wherein said thin film light source emits light of

a plurality of different colors.

18. The image sensor device according to claim 13, wherein an optical fiber collection member is provided between said thin film light source and said document.

19. An image sensor device which optically reads out a document comprising:

an image sensor portion having a plurality of light receiving elements arranged regularly facing a document to be read out; and

5 a thin film light source arranged tightly contacted on the document side of said image sensor portion, said thin film light source emitting light to said document,

10 wherein a reflection mirror and a dielectric mirror are formed integrally with a light emission portion with said light emission portion interposed therebetween, said reflection mirror and said dielectric mirror producing parallel beams of light and irradiating light emitted from said thin film light source onto a limited part of said document.

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20. The image sensor device according to claim 19, wherein the light emission portion of said thin

film light source consists of a transparent electrode,
an opaque electrode and an organic thin film held
between the transparent and opeque electrodes and said
5 opaque electrode is formed of a material which func-
tions as a light blocking layer for a region other than
said light receiving element of said image sensor
section.

21. The image sensor device according to claim
19, wherein light blocking means is provided at a
region other than said light receiving element of said
image sensor portion.

22. The image sensor device according to claim
19, wherein said image sensor portion is one of two
types of image sensors, one being formed on a crystal-
line silicon wafer and the other being formed on a
5 transparent substrate by thin film semiconductor
processes.

23. The image sensor device according to claim
19, wherein said thin film light source emits light of
a plurality of different colors.

24. The image sensor device according to claim
19, wherein an optical fiber collection member is

provided between said thin film light source and said document.

25. An image sensor device which optically reads out a document comprising:

an image sensor portion having a plurality of light receiving elements arranged regularly facing a document to be read out; and

5 a thin film light source arranged tightly contacted on the document side of said image sensor portion, said film light source emitting light to said document,

10 wherein an optical fiber collection member is disposed between the light emission portion of said thin film light source and said document to be read out, said optical fiber collection member being for producing a parallel beam of light and irradiating 15 light emitted from said light emission portion onto a limited part of said document.

26. The image sensor device according to claim 25, wherein the light emission portion of said thin film light source consists of a transparent electrode, an opaque electrode and an organic thin film held 5 between the transparent and opaque electrodes and said opaque electrode is formed of a material which func-

tions as a light blocking layer for a region other than said light receiving element of said image sensor section.

27. The image sensor device according to claim 25, wherein light blocking means is provided at a region other than said light receiving element of said image sensor portion.

28. The image sensor device according to claim 25, wherein said image sensor portion is one of two types of image sensors, one being formed on a crystalline silicon wafer and the other being formed on a transparent substrate by thin film semiconductor processes.

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29. The image sensor device according to claim 25, wherein said thin film light source emits light of a plurality of different colors.

30. An image sensor device which optically reads out a document comprising:

an image sensor portion having a plurality of light receiving elements arranged regularly facing a document to be read out; and

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a thin film light source arranged tightly

contacted on the document side of said image sensor portion, said thin film light source emitting light to said document,

10 wherein an optical fiber collection member is provided between a light emission portion of said thin film light source and said document to be read out, and optical means for bending a course of light toward a predetermined direction is provided between said optical fiber collection member and said document, said optical fiber collection member being for producing parallel beam of light and irradiating light emitted from said thin film light source onto a limited part of said document.

31. The image sensor device according to claim 30, wherein said optical means is one of a diffraction grating, a micro lens and a V-shaped groove.

32. The image sensor device according to claim 30, wherein the light emission portion of said thin film light source consists of a transparent electrode, an opaque electrode and an organic thin film held between the transparent and opeque electrodes and said opaque electrode is formed of a material which functions as a light blocking layer for a region other than said light receiving element of said image sensor

section.

33. The image sensor device according to claim 30, wherein light blocking means is provided at a region other than said light receiving element of said image sensor portion.

34. The image sensor device according to claim 30, wherein said image sensor portion is one of two types of image sensors, one being formed on a crystal-line silicon wafer and the other being formed on a transparent substrate by thin film semiconductor processes.

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35. The image sensor device according to claim 30, wherein said thin film light source emits light of a plurality of different colors.

36. An image sensor device which optically reads out a document comprising:

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an image sensor portion having a plurality of light receiving elements arranged regularly facing a document to be read out; and

a thin film light source arranged tightly contacted on the document side of said image sensor portion, said thin film light source emitting light to

said document,

10 wherein there are provided light guiding
means for guiding light emitted from the light emission
portion of said thin film light source to at least one
of said specified light receiving elements and adjust-
ing means for adjusting sensitivity of said image
15 sensor portion depending on a signal output detected by
said specified light receiving element.

37. The image sensor device according to claim
36, wherein said light guiding means is a light reflec-
tion layer disposed between said thin film light source
and said document.

38. The image sensor device according to claim
36, wherein the light emission portion of said thin
film light source consists of a transparent electrode,
an opaque electrode and an organic thin film held
5 between the transparent and opeque electrodes and said
opaque electrode is formed of a material which func-
tions as a light blocking layer for a region other than
said light receiving element of said image sensor
section.

39. The image sensor device according to claim
36, wherein light blocking means is provided at a

region other than said light receiving element of said image sensor portion.

40. The image sensor device according to claim 36, wherein said image sensor portion is one of two types of image sensors, one being formed on a crystalline silicon wafer and the other being formed on a transparent substrate by thin film semiconductor processes.

41. The image sensor device according to claim 36, wherein said thin film light source emits light of a plurality of different colors.

42. The image sensor device according to claim 36, wherein an optical fiber collection member is provided between said thin film light source and said document.

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